REMARKS

Applicant respectfully requests allowance of the subject application in view of the foregoing amendments and the following remarks.

Claims 1-3, 5-15, 17-23, 25-31, 33 and 34 are pending in the application, with claims 1 and 21 being independent. Claims 1, 17, 21 and 33 have been amended. Claims 4 and 24 are canceled. Support for claim amendments and additions can be found in the original disclosure at least at page 32.

Claim Objections

In the pending Action, the Office states that claims 17 and 33 appear to depend from canceled claims 16 and 32, respectively. Applicant has amended claims 17 and 33 to depend from independent claims 1 and 21, respectively, as shown above. Applicant respectfully submits that these amendments obviate the grounds for the objections and, thus, respectfully requests that the Office withdraw the objections.

Claim Rejections under §112, Second Paragraph Rejection

Claims 1-15, 17-31, 33 and 34 are rejected under 35 U.S.C §112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the Office asserts that it is unclear how the steps of: "placing a state event in the client queue", "deriving a client event from the state event" and "transmitting the client event to the respective client" result in "transmitting the

current state of the specific data object to a set of clients" (emphasis in original). In particular, the Office states that "transmitting the client event" does not necessarily result in "transmitting the current state." The Office suggests amending claims 1 and 21 to specify that the state event contains the current state of the particular data object (instead of indicating the current state of the particular data object). Finally, the Office asserts that it is also unclear as to what constitutes "deriving a client event from the state event." Office Action, pp. 4-5.

Applicant respectfully traverses the rejection. Nevertheless, for the sole purpose of expediting allowance and without conceding the propriety of the Office's rejections, Applicant's attorney has revised independent claims 1 and 21, as shown above, to more specifically state what is meant by "deriving a client event from the state event" and to specify that the state event "contain[s]" the current state of the particular data object. Accordingly, Applicant respectfully requests that the Office withdraw the rejections under 35 U.S.C. § 112, second paragraph.

Claim Rejections under §103(a)

Claims 1, 6, 8-10, 14, 19-21, 25, 26, 28-31 and 34 are rejected under 35 U.S.C. §103(a) as being obvious over U.S. Patent 6,513,019 (hereinafter, "Lewis") in view of U.S. Patent Publication No. 2004/0254921 A1 (hereinafter, "Cohen") and in further view of U.S. Patent Publication No. 2007/0078978 A1 (hereinafter, "Arnold").

Claims 2, 3, 5, 22 and 23 are rejected under 35 U.S.C. §103(a) as being obvious over Lewis in view of Cohen in further view of Arnold and further in view of U.S. Patent No. 4,868,866 (hereinafter, "Williams").

Claims 4 and 24 are rejected under 35 U.S.C. §103(a) as being obvious over Lewis in view of Cohen in further view of Arnold and further in view of U.S. Patent No. 6,546,421 B1(hereinafter, "Wynblatt").

Claims 7 and 27 are rejected under 35 U.S.C. §103(a) as being obvious over Lewis in view of Cohen in further view of Arnold and further in view of U.S. Patent No. 6,072,870 (hereinafter, "Nguyen").

Claims 11-12 are rejected under 35 U.S.C. §103(a) as being obvious over Lewis in view of Cohen in further view of Arnold and further in view of U.S. Patent No. 5,878,418 (hereinafter, "Polcyn").

Claims 13 and 15 are rejected under 35 U.S.C. §103(a) as being obvious over Lewis in view of Cohen in view of Arnold in view of Polcyn and further in view of U.S. Patent No. 6,847,971 B1 (hereinafter, "Balaraman")

Claims 17, 18 and 33 are rejected under 35 U.S.C. §103(a) as being obvious over Lewis in view of Cohen in view of Arnold and in further view of U.S. Patent No. 6,839,680 B1 (hereinafter "Liu").

Applicant respectfully traverses these rejections. Nevertheless, for the sole purpose of expediting allowance and without conceding the propriety of the Office's rejections, Applicant has amended independent claims 1 and 21 in

accordance with the suggestion in the Office Action in addition to other revisions. Applicant thanks the Office for this suggestion.

Independent claim 1, as amended, recites a method for processing information provided from at least one content provider about a state of a plurality of objects, the states being subject to periodic updates, and for delivering formatted information indicating a current state of at least a portion of the plurality of objects to a plurality of clients via a data communication network in substantially real-time, the method comprising the steps of:

- in an information manager:
  - receiving raw data objects on at least one raw data stream input;
  - generating a formatted data object from a received raw data object;
  - storing a current state of the formatted data object in an object storage pool; and
  - broadcasting the current state of the formatted data object on a particular broadcast data stream;
- in a client manager:
  - establishing communication sessions with a plurality of clients;
  - connecting to at least one broadcast data stream, wherein the connecting to at least one broadcast data stream:
    - connecting to a first broadcast data stream from a first information manager; and
    - connecting to a second broadcast data stream from a second information manager;
  - receiving on a connected broadcast data stream a current state for a specific data object;
  - updating an object pool cache to reflect the current state of the specific data object; and
  - transmitting the current state of the specific data object to a set of clients selected from the plurality of clients;
- wherein each connected client has a respective client event queue, the step of transmitting the current state of the specific data object to

the set of clients comprises the steps of, for each respective client in the set of clients:

- o placing a state event in the client event queue associated with the respective client, the state event contains the current state of the particular data object;
- o deriving a client event from the state event prior to transmission of the client event to the respective client, wherein the deriving of the client event occurs upon placement of the state event in the client event queue or upon removal of the state event from the client event queue, and further wherein the format and configuration of the derived client event differs from the state event; and
- subsequently transmitting the client event derived from at least the state event in the client event queue to the respective client.

In stating a rejection of Applicant's claim 1, the Office states that the combination of Lewis, Cohen and Arnold renders this claim obvious. In stating that this combination teaches subject matter added to claim 1 in Applicant's previous Office Action response, the Office cites to Arnold and states that one skilled in the art would be motivated to combine Arnold with Lewis and Cohen, thus rendering Applicant's previous amendment obvious. Applicant respectfully disagrees.

Nevertheless, Applicant has amended claim 1 to include subject matter from the specification as suggested by the Office Action for the sole purpose of expediting allowance. Specifically, independent claim 1 is amended to recite that the method comprises "deriving a client event from the state event prior to transmission to the respective client, *wherein the deriving of the client event occurs upon placement of the state event in the client event queue or upon removal of the state event from the client event queue, and further wherein the format and*

configuration of the derived client event differs from the state event." (emphasis added)

Arnold describes techniques for updating information in a low-bandwidth client/server object-oriented system. According to the patent application, Arnold describes attempting to transmit an identified packet of data from a first computing system to a second computing system. If the second computing system receives the identified packet, then the second computing system sends an acknowledgment to the first computing system. If the second computing system does not successfully receive the identified packet of data, then the first computing system may attempt to resend the packet. <u>Arnold</u>, abstract.

Additionally, Arnold describes the use of queues to transmit information from a client to a server, or vice versa. For instance, Arnold includes Fig. 24 (reproduced below), which is a diagrammatic representation of a client/server system which queues data that is created and modified on a client for storage on a server.
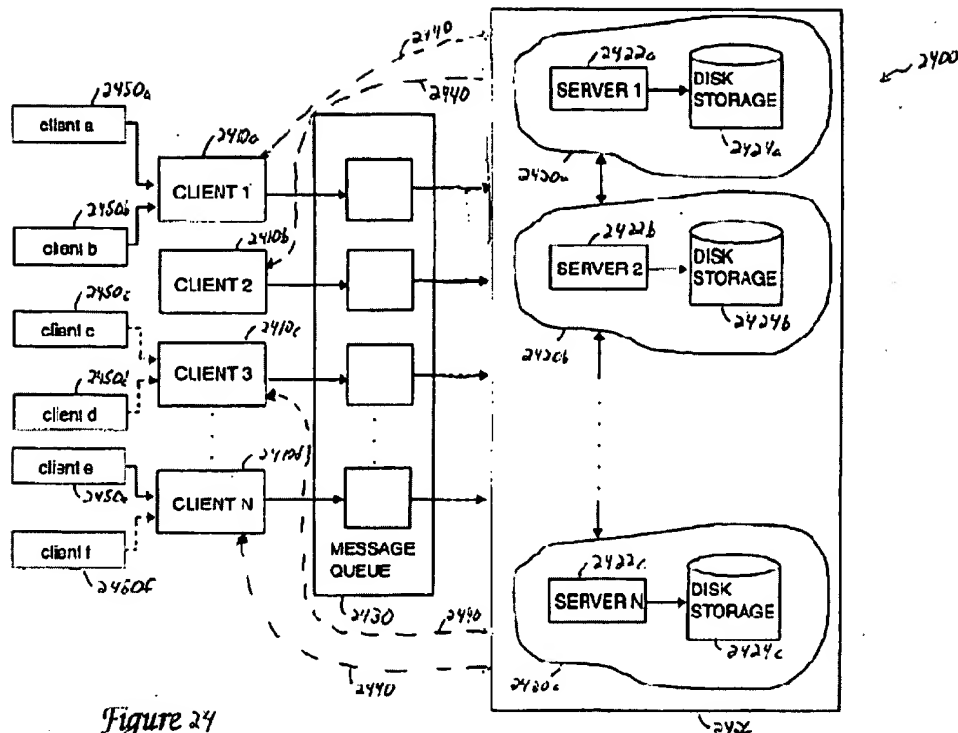
CLIENT 1
CLIENT 2
CLIENT 3
CLIENT N

client a
cilent b
client c
client d
client e
client f

MESSAGE QUEUE

SERVER 1 → DISK STORAGE
SERVER 2 → DISK STORAGE
SERVER N → DISK STORAGE

Figure 24

Arnold goes on to describe Fig. 24 and the use of queues in paragraph [0157], which the Office cites as teaching that "each connected client has a respective client event queue, the step of transmitting the current state of the specific data object to the set of clients comprises the steps of, for each respective client in the set of clients: placing a state event in the client event queue associated with the respective client, the state event indicating the current state of the particular data object; and subsequently transmitting the client event derived from at least the state event in the client event queue to the respective client." However, in this paragraph, Arnold states:

[0157] *Clients 2410, which generally include data storage capabilities, may communicate either directly with overall server 2426 or through a "smart" message queue 2430* which is effectively a part of clients 2410 and overall server 2426. Clients 2410 queue data on message queue 2430 when, for example, data has been modified and is to be sent to overall server 2426....*Alternatively, overall server 2426 may send data to clients 2410 using a queue (not shown). As described above, overall server 2426 may maintain a queue or queues of objects in which clients 2410 have interest. Hence, data may be transmitted to clients 2410 from overall server 2426 via such queues....*

<u>Arnold</u>, paragraph [0157] (emphasis added).

This portion of Arnold thus states, in total, that clients may communicate with a server via the use of queues and/or that servers may communicate with clients with the use of queues.

Applicant's claim 1 as amended, however, recites "deriving a client event from the state event prior to transmission to the respective client, *wherein the deriving of the client event occurs upon placement of the state event in the client event queue or upon removal of the state event from the client event queue, and further wherein the format and configuration of the derived client event differs from the state event.*"

Applicant respectfully submits that neither Arnold nor any of the cited references have been shown to teach or suggest "deriving a client event from the state event" where "the deriving of the client occurs upon placement of the state event in the client event queue or upon removal of the state event from the client event queue". Further, Arnold does not teach or suggest that the "format and

configuration of the derived client event differs from the state event" or subsequently "transmitting a client event *derived from* the state event"...to a client (emphasis added).

At most, Arnold has been shown to teach using queues to pass data back and forth between clients and servers. Merely passing data via these queues, however, fails to teach or suggest *deriving* a second event from a first event that has been placed in a queue, and transmitting the second event to a client.

For at least this reason and for incorporation of the suggestions recited in the Office Action, Applicant respectfully submits that this claim stands allowable.

Applicant has further amended independent claim 1 to include dependent claim 4. In making out a rejection of Applicant's dependent claim 4, the Office states that the combination of Lewis, Cohen, Arnold and Wynblatt render this claim obvious. Applicant respectfully disagrees.

Wynblatt is directed to "a system and method for providing automatic and continuous selection of user-preferred data streams based on pre-defined parameters." Wynblatt recites "[r]eferring to FIG. 1, a diagram illustrates a conventional system 10 for connecting to a desired one of a plurality of data stream servers 11 over the Internet 12." Fig. 1 from Wynblatt is reproduced below.
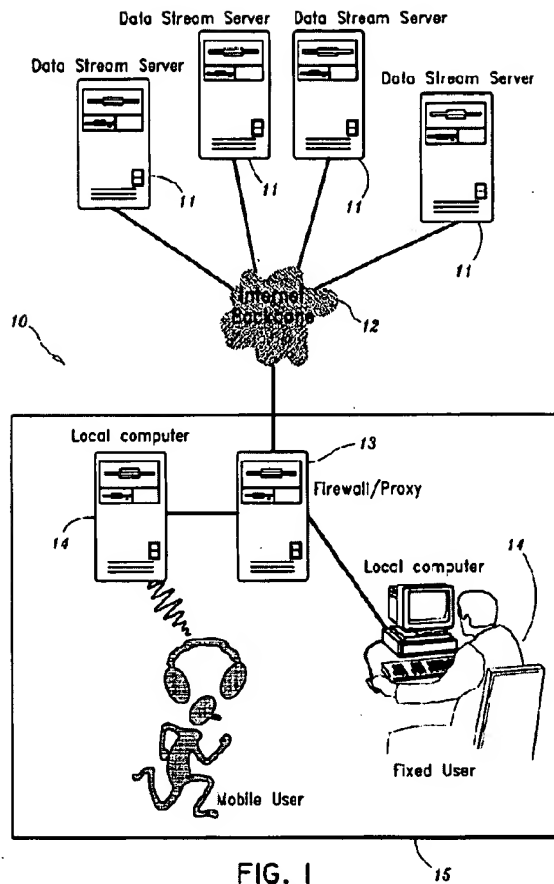
Data Stream Server **Data Stream Server** **Data Stream Server** **Data Stream Server**

Internet Backbone

10 *12*

Local computer *13* **Firewall/Proxy**

14 *14*

Local computer

Fixed User

Mobile User

FIG. I
(PRIOR ART)

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Wynblatt does not teach or suggest "connecting to a first broadcast data stream from a first information manager; and connecting to a second broadcast data stream from a second information manager." Instead, Wynblatt shows the various data stream servers directed through a firewall/proxy and then connected to various information managers. Further, Wynblatt recites "data streams are often used for sending audio and video data, and the processing at the local computer 14 is actually data rendering. <u>Wynblatt</u>, Column 1, lines 41-43. However, "information manager", as recited in the claim, stores the current state

of the object received in the data stream and determines changes between the current state and a prior state.

For at least this additional reason, Applicant respectfully submits that this claim stands allowable.

Dependent claims 2-3, 5-15 and 17-20 depend from independent claim 1 and are allowable by virtue of their dependency form allowable claim 1, as well as for the additional features that each recites.

Independent claim 21 is amended to recite subject matter similar to the subject matter added to amended independent claim 1. In stating a rejection of claim 21, the Office states that the combination of Lewis, Cohen, and Arnold render this claim obvious for reasons identical to those discussed above in regards to claims 1. Therefore, for at least reasons similar to those discussed above, Applicant respectfully submits that this claim stands allowable.

Dependent claims 22-23, 25-31, 33 and 34 depend from independent claim 21 and are allowable by virtue of their dependency from allowable claim 21, as well as for the additional features that each recites.

Conclusion

All of the pending claims are in condition for allowance. Accordingly, Applicant requests a Notice of Allowability be issued forthwith. If the Office's next anticipated action is to be anything other than issuance of a Notice of Allowability, **Applicant respectfully requests a call to discuss any remaining issues**.

Respectfully Submitted,

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